

What is Claimed:

1. An electrostatic actuator having at least 4 parallel plates, each plate having at least 6 cantilever beams at its perimeter such that at least four beams having electrically insulating connections are located at the 45, 135, 225, and 315 degree positions, and at least 2 electrically conducting beams with electrically conducting connections located at the 0 and 180 degree positions such that the beams located at the 45, and 225 degree positions connect to the adjacent plate immediately above, and the beams at the 135, and 315 degree positions connect to the adjacent plate immediately below, and the beam at the 0 degree position connects to the 2nd plate above, and the beam at the 180 degree position connects to the 2nd plate below it.
2. The electrostatic actuator of claim 1 having an open cell foam located between the plates, said open cell foam made from one of: silica aerogel, oxidized porous silicon,
3. An electrostatic actuator having at least 4 parallel plates, each plate having an electrically conductive cantilever beam at the 0 degree position and at the 180 position, and all adjacent plates are separated by a layer of open cell foam made from one of: silica aerogel, oxidized porous silicon
4. an electrostatic parallel plate actuator having rigid walls that is built up by stacking layers having a square frame and four cantilevered suspension beams supporting a square plate

